



Figure 1

>seq1 [SEQ ID NO: 1]
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>seq2 [SEQ ID NO: 2]
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AAGGCTCTTCTCTGACCAAGGATGGAAGGTGGATTTTCAGGGCCCTTGCTTCTGCTGGTGGCCAGAATTATTCGAACT
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TGCAGCCTTAGTGGGCTGA
>seq3 [SEQ ID NO: 3]
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>seq4 [SEQ ID NO: 4]
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CGGAATCTTGTACTGA
>seq5 [SEQ ID NO: 5]
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>seq6 [SEQ ID NO: 6]
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>seq7 [SEQ ID NO: 7]
ATGATGCAGCCTTGCTCCAAACAAGAAAGAAATATGCGGACCTCTGACTCCAGCATCGAGTCCGCGTACCGCTCAGCCT
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>seq8 [SEQ ID NO: 8]
ATGAGGCGAGCCCTGGTAGTGTGCCCCCTTGGCGGGACCTGGAAGAACCAGCGGTCCATTGCCCTGGTGAAAGATCTTC
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>seq9 [SEQ ID NO: 9]
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>seq10 [SEQ ID NO: 10]
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>seq11 [SEQ ID NO: 11]
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CACTCGTGGCTTACATGAGCTTTTCTGTCCCTTCCGTGCGGGCGACCGGGGTTGATCCATAATCATCTCTCCACGGT
CAGACGAAGATTGACTACTGTGGTCAAGGTCAGTGCCTCAGATCCAAGGAGGGGCCCTCAGGACTATTCTCAATG
CTCTGA
>seq12 [SEQ ID NO: 12]

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US Application No. 10/763,039 entitled "Alien Sequences" by Smith et al.
Attorney Docket No. 2003320-0036

ATGCGGGAAGAGTCCAAGACTATCTCGATCAATGGTGTGAAATGGCTCATTGATTGCCAGCTGAAAAATCTTCACGA
GGAAGTATGGTGTGCCGACTGCAGGAGAAGCTTCTACATCCTGGGCTGTTTGGTTGCCACCTGGTGACTGGAGGGTA
CCGAACATTATGATCTACATCGGTCCATTCTTCTTTTCATCATGTATGTGGGGTCCGGATCATTTCGTTGA

>seq13 [SEQ ID NO: 13]

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CTCTATGGGAGTGTCTATGTACCTAGCACAGGAATCATTTCCGTTCCCACTGCAGGATGATTGCCCTCTGACCAAGATG
CACAGGTTGAAAGATTTCTGGGACTCCACCAGCAGTTTAAGCAGCTGGGCGAATCTGAGGCCCCCTCAGCAGATTCGCA
AGAAAAATCATCGTTTAGTTTCTGGGGCTCATCGGAGAACTCTGCGCCCGCAACCGAAAAATACCAGCAAGAAGTCCCA
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>seq14 [SEQ ID NO: 14]

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>seq15 [SEQ ID NO: 15]

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CCAGACTGAACAGCTCCCGCCCATGAGCTACTTTTGGACAAGCCAAAGCTGTCTTCGTTCCAGGAAGAGCCACGGCTG
TGGGTGACTTTATGCCAGGAGACATTGCCATTTCCCTGGGTAATTCTGGGTATGATGAGCAGGAAGAGGAGGGCCTGT
GTCTGCTGTGCTCCCTTGCCAGACTTCAGACATGA

>seq16 [SEQ ID NO: 16]

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>seq17 [SEQ ID NO: 17]

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CAAGAACTGACGAGCCGCTTCTATCTGAAACCTAACATGTCTTCCGGTCTATCCGCTACGGAGAGCGGCAACCACTC
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TTGACTGA

>seq18 [SEQ ID NO: 18]

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CCGCATCAGCGATGACACTCGCAATATCCTTTGACTGGATTGTTCTCTCCCTGACCAAGAAGTGGATGTGTCCAG
TTACAGTGTGGCCGACAGAGTAGCCTCGATGCCAAATGCCATGTGACCAGCACTATAGAAAGGTGCAGTCTGCCCTCA
GCCAGGCTCTGCAGATGGGTGGTGCCTGGGTGAAGCAGAAAGCAAGCCAGGAGATTGCCGGGTGGTCCACAGCAGCAG
CCTTCAAGAGCAGGCCTTGGATGGATCATCCAACCTTCGCCACTCTGTCCGTTTAA

>seq19 [SEQ ID NO: 19]

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>seq20 [SEQ ID NO: 20]

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GTTTTACTCCAGACCATCTTGCGTTGGCGGCCCCAGGATGCCGAAACAGAGAGACAGAGGAGAAGCGGCTTCAAGCTG
GCCATGATGGCAGCGGCAAGTGCCAGCCTGTGAACGACCCACCTTGTCTTATGAAGCTTACCTAAGGCCCATCT
GGAATGGTATGAGCTTCTTGAATGGCTGATCTTTGTCCCATGAACCTTGGTGGACACAGACACAGCACCTCCCTGAG
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>seq21 [SEQ ID NO: 21]

ATGCACTAGTCGCGAGCTGCCGCTTCCAAGCTGTTCACGCTTGGCGTTAAGGGCCCAAACCTCAGACACTACCTAA
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>seq22 [SEQ ID NO: 22]

ATGTATGCCTGTGCTGCTCTCAGTTCATTCTTGCCTTCCCAAAGTACGGACTGACTGCCAAGAGATACCCAACCTGA

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US Application No. 10/763,039 entitled "Alien Sequences" by Smith et al.
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GAACCTATTGCCTCTGCTTATTGTGGAAGTGTGAGAAGCATATTTGTGGCAGGGGATCAATCTAACGATGCGACAGGT
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CAAGACAGTCAGCCGGCACATCGTTAAAGTCCGCCAGGTGTTGCTTTTTTTAGAACTTTACCCTGGCTCGAAGGCTAGA
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TTGCCATGCTCCTTTGCAGCCGCTCCTCAGTGAACCAAGGACAGTACGACGGCACCTGTTCTGTGTTCTTTTTCCT
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TGA

>seq23 [SEQ ID NO: 23]

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TTAGTCTGCAGTATGGGAAGACAAAAAATGTTCCCTACCGGCTGA

>seq24 [SEQ ID NO: 24]

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ACCCACCAGCAGTTCTACCACCGTCAGCGGGCCAGCTTTCAGGACTACGCGGGAGATATGGCCTACATCGAACTTTTC
AGTCAGATCAGTCTTACTGCGCAAAGAGCACTACAGATGCCAATCAACCCTGCGAACGCGGGCGCGGTATCCATGGGGA
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TCCGCAATCTCTGACCAGCAAGGGCCACTACCTGAGCCTGTATCTGCTGGAAGGAGAAATCTTAGCAGGAACCATCTCC
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CCTTCAGTCAGAGGCTGTTGAGGTTGACCGGAAGTCCCAATCCAAGGCCCAAGGTTTCCAGAAATGTGGCGAGACGG
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TAA

>seq25 [SEQ ID NO: 25]

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>seq26 [SEQ ID NO: 26]

ATGCGGAAGTCGCTTTCGCGCAAACCTGCGGATGGCCTGCTCCAAGGGCCTCTCCGGGGTTCTGTCTCCTCTTGTCA
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>seq27 [SEQ ID NO: 27]

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>seq28 [SEQ ID NO: 28]

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GTTTTCGAAGGCACCCCTTACCCTCTCAACGACTGTGGGCACTCCTGGGTGCATGGTGGCTGGATCTGGCATCTTGAC
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>seq29 [SEQ ID NO: 29]

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CATGCACATCATACTGCAGACTCCGCGCATCAGCAATGCCGCGAGGCAGGCGGCTTGAAGCCTGGCACGGACTGAGCAA
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>seq30 [SEQ ID NO: 30]

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>seq31 [SEQ ID NO: 31]

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>seq32 [SEQ ID NO: 32]

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GTGTCGTAAGTGCAATGATTGTGTGTGTCTGTTGGGGGAGGTTTATGAGAAAGCATAAGATACAGTTGCAGTGTGAGT
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>seq33 [SEQ ID NO: 33]

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>seq34 [SEQ ID NO: 34]

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CCAGTCCCGGTTCAACATTTGTCTTGATTGATTCTGTGTAATCTTCGTCGGCAGGTGCCAGGATATGTACCTGCTC
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>seq35 [SEQ ID NO: 35]

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>seq36 [SEQ ID NO: 36]

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>seq37 [SEQ ID NO: 37]

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>seq38 [SEQ ID NO: 38]

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>seq39 [SEQ ID NO: 39]

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>seq40 [SEQ ID NO: 40]

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GCCTCCCTCTAACAGCCATTCTTTGGAAAGTTCTACTCGACTTCTTCAGCCGCCACAGCCCTGGGCCCAAGCTCCAC
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>seq41 [SEQ ID NO: 41]

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>seq42 [SEQ ID NO: 42]

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>seq43 [SEQ ID NO: 43]

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>seq44 [SEQ ID NO: 44]

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GCGGACCATGGTTGCCAACGCTCCGGAACCCAGGCTGATGACACTGGTTGTCCGCTTGGTCGGCCATGGCGGTTGCACA
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CGGCTGCCTACATCCCCTGTTACTACATGAATGTGCTATCCATCTCAAGGGAACCTTGAGCTGCTATTGAGCTCAATCCA
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CATTCACTGACACGGAATCAGAGCTCCAGATTTCACTTCAGGCGGAATCAGGAAACAGCGAGATCTCCTGGAGTGGCCA
CTAAGGAGACGGGAGCGTTGACACAGATGTACCCCTTTCTCCGAGTACCGCAGAGTGACTGAGTCGTTTTTCTTAGT
GCACGGTCTCTCTCTCCACGTGCGTGCCTGGAGCCCTACCTTTAGCCCCAATGGAGGAAATCCAGAAGTGA

>seq45 [SEQ ID NO: 45]

ATGACCTACCTGTGGATGAAGGCGATCAGCAGTCATGCCAAGCTGCCGGCAAACCTTCACGATACAGTCATTCTCCAGT
GCATTCAAGAAACAACCGCAAGTCCTGATAGAGAATCCTGACGATGCTGAAGCCCAAGATCTCAAGAAGAGACGGA
CCTACTGAATAGACTGTGGCCGGATAACCTCTCTTCTCTGACGGAGATGCCAATCTCCGTTGTCTGTGCAGAAGCATC
CGCCCTTACACCTCTTCAGCGGACTCCGTGTCTAAAGAGATGTGCCAGTTTTTGGCAGGTGGCCTTTGGCGAGGCTGGCA
AGCGTGAGGACTGTCTCTTTACCCCAAGTCAATCCTGTAA

>seq46 [SEQ ID NO: 46]

ATGAAATCCTGCGTGGATGAAGAATCAAGTCATTGCTATGGGTCCGCGCGGTGGGAAGCGCTTAAGCAGAGCACGGGTT
TTTTTCGCCACTCGTGAGCGAGAGCGGCTTCAAGCAGGATGGGTCTCTGA

>seq47 [SEQ ID NO: 47]

ATGCTGCTGATGCCAGAGTTGTTAGAAAACAAAGGACTCAATGGAAGCCGAATCCAAATTGAAGAGCATCAGCATGCAGA
AGGCTGAGTTCAAGAGGGGGGCATTCTTTAGGAAAACGGCTCACATCGTACCCGAAGGTCCCTCTGGAATCTTGA

>seq48 [SEQ ID NO: 48]

ATGTTTCGCTTCTTAGATCTGACTAGTTTCATTCTCGCGGGCCGGGCTTGGTACACTACCTCACCTCTCCTGACACCG
AAATCTGGCATTACCGCCTTCTGGTGTGAGCTGTGCAAAGCTTGCTCTTGCGAACCCGCAATGCGACAACAGACTC
TGAGTACCACACTATTTCCCGGAAGTACTTAATTGACCCCATCTCACAGCTTTCGCTGTTTACCTTAATGCACCTGCTC
TGA

>seq49 [SEQ ID NO: 49]

ATGATGAGCAAGCATCACACCCCAACCAAGTACTCTGCTGCCAAAATGAAGACCTGCAGGGAACCCCGAGGCTGCGAG
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>seq50 [SEQ ID NO: 50]

ATGAACGACATGCATGCGCTCTTTGCGACAAAACACGTATCACCGAGAGGGGAAATAAGTTCTTCTCCAGCCCTCGA
CCAATCGGAACACGTTCCAGGCAGAGGAGCACTGTGAGTCCCTCAGAGCGCCACTCCGTACCAGCGGTATGTATGGCCC
CTCATGCTCAGCGTACCTCTTTGATATACTTCTGATCTCGTGA

>seq51 [SEQ ID NO: 51]

ATGATGACGCTTGGTTTTGTGGAGGCCCAAATCCACTCTTTACCTCTGACTCTGAGCGTCTCTGTGTTGAAAATGG
ATCAGATGGGATCCATTGAGCCTGACAGAAAGAAAACCCAGAGCTCGAGCTGATGCCCCGACTCTTGGCCCCGAGTCG
TCAGCCAAAGTTCCTGCCAGCGGCGATCTTCTCCAGAGGGTGTCTCAGACGCTTACCTCTCTCTGGGTGAGGCAGGT
TGA

>seq52 [SEQ ID NO: 52]

ATGGAAGAGAATGGCCTGGCACATTCTTACACTGGGGTGAAGTTACGGGCCAATGACACTGGCTCCCTGGCGCTGCGTA
AGCAGTCAGATGCTGTGTTGAGTCCAGACAGCAAGTGCCTGA

>seq53 [SEQ ID NO: 53]

ATGACCTTGTTCCTTTCCGGCCTGTACCCCAAGTGGGCCGTGAGCCAGAGCCACTATCAATCCTGGGAGGGACCCGACA

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TCGCTGAAGGGACCATCGAGGATCACCTGGAGCGCCTCAAACCGGTATGAGAGCCTTGATTAATGGTGGGACGTAA
>seq54 [SEQ ID NO: 54]
ATGACACAGTACTGGAGGATTTTGTATCGTGTGCGAATTGATCTGCCGGTCTCCTTCTACAGTTCTATGGAGAGAGCC
CCCCCTCAGTGGTTTTGCCGCCCCAAACGCTGCTTAAAAAGGTCTCGGTGCGAACGGACTAAAGGCACGATGCAATTGGCC
CCCTGTTAGCTCTCGCACCTACATCAAGTTCAAGACAATGTCTATGCTCTGAAGTGGACACCCCTGA
>seq55 [SEQ ID NO: 55]
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CACAGGTGAGCAGACTGACAGTGGTCTTACACCCAGGCATGATCGGCGTAGCCCTGACATGGCTAAGGGTCAAGCAATGG
GTTGTCCCAGCAATGGGCAGTTCCGGGGGCCATGAGCCGAACCTCATCTGCATACCTTATGCTCCAGAGGAATATACTTCA
GAGACCGGAATGAATGTGCCGAGGGCCTGTCCACACTTGGCCCCCTGGTGTATGACTTCGTGATAGAACTAACACAACG
GTTCCCTTACAACCTCCTCGGGTACGGCATTGAAGACATAGAATCCTTCAAAAATTGGAACCTTGTACCGGACTTTTCGT
ATCTCGGAGGGCTATAAACTACTGAACATCAAGAGATCACCAAAGTCTGAGTTATGCTCAGGACGTATGGCTTTTTCTT
TCCTCCGGCTGTTTCTGTTCCACAAGAGACAGCCCCGTGGTAAATGGCAATGCGCTATGAGGGCAAGTGGATCTTTCG
TGGGAAGGCACAGAGAGTGGCGTTGTCCCTCTCAGGGTCCGACTTCCAAGAGCGCAGGCAAAGATAGGATGTGTGAG
ACCCCATGACCTTAGCAACCAAGGTCGAAATACCCGAGGCCTGCAGGGCTACCGCCTCATCAAGCTGAAGTGTGCTC
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>seq56 [SEQ ID NO: 56]
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AACCGAGAAGAAATCTGGGCTGCCTGA
>seq57 [SEQ ID NO: 57]
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GGCCGAGGACATCCTAGACGCTCCTTGCCAACTGAAATCGGCTGGGGCGAGCACTGGGGGACTTAATATTGGGGAT
GATCGGACCTTCCGCTGTGCACGTCCGCCTCGCTCAGCAGACCCCTCAACCTAAGAGTAAACAGAGCAACATTATTT
GCATCTCCTGA
>seq58 [SEQ ID NO: 58]
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>seq59 [SEQ ID NO: 59]
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CTCAGGACGCCTGACCTCACTGCACCACTTCCCTGATGTGATGGCCAAAGAGGACCGGAAAACCGAGGACTTTGCGGTC
AGCTCTCTCCAGAGATCCAGCGCTCTCCACGGGCCGCGCAGATATGAGATATATGCCGAATACATTGATAATGGCC
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>seq60 [SEQ ID NO: 60]
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GCTTATGAGGATGGAGGGCCAGAGCAGAGAAATATGGAGGCCGTGAACCAAGCCACCGGCTCACTAAGGCGATGTAT
GTGTATGCAAGCAGAAAGTCAAGGGGATGGTGACGAGCCTCTCTGGGGTGGCGACCTGCGGCCTGCCATCGGAAAAGG
AGTGA
>seq61 [SEQ ID NO: 61]
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CAAATTCCTTGCAAAAAGTTCTGCGTCATTTGA
>seq62 [SEQ ID NO: 62]
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TGACTCGCAGCTCGGAAGGACACTTGAGCCTCTTGAGGAGATCACTTAAGTTGGGTGTTGTTCCCTCTCAAGTTCTTT
TCAGAAAGCATCTGGAACCTTAAATCCAAAGAACGTTCCGGCGATGACATGCTTGAGAGGATCACATCAATGGAGCTCT
TGCTGCCACTGAGACGGCTAGAACAGCTAAGCTTCTATTCCTTCTCTCTCAGTGTACTGCCCTTCGCGGAGCAAGAC
CAGCCCAACCAATTCCTGTGCGTGTCCCTGGGCAGTTGCCATAAGCAGCAAAGAACCTGGCTGTACAATGCACTGATC
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TTCCATTTTCAGTAATGCGGCAAGGGAGACACGGACAATTGGCCCTCACACCATCATGAGTTCCTGACCTGTTTCGCC
CGTAAAGAGTGTGGATCCGAGCCGGAGGGCATGA
>seq63 [SEQ ID NO: 63]

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ATGATCACTGCCAAAGATGAGACCAGATGTCTGCATTCTCCCGAGTAGATCGGTATCGGACACTTGGCGACCCGATGT
CTGAGGAGATGTCTGTGTTGCCCTCCTGGTTGGGCGCGTTTACGCCAAGGGCCTCTTTGACAAAATTGTCTTAATCCAGAA
TCCCTTCATCCTCCACGACTTTTTTCATGCGGTTCCCTTCTCCCTCCAGGTACCTCTATATCAGCGCTACAAACAAGAC
CTTGATAAGGACCTGTGTTCAGCCTGCCTTGGTACTACAACCCGAAGCTGCGGCAGCGCACTTCGCAGCTCACCTACA
AGCTCCGCACAATCTCTGTTGGCCCCAAGACAAGACCATGGCACGAAGACGTCTCTCCCAATGCTGACTATTACCCAGGT
GACTGCACTGAGCGACCTGAGAATTTTTTCTCTGGATTGGGGAGGACCTCCCCCTGGAGCCCTTTTTCTCACTCCTT
TCGTGTTATCGGTGCGCTTTCTGGGTTTTACAGTTCTGCTCTATACAAGGAATGGCCTCAAGTACAGCAAGGCGCATG
ACAAAGAGTGTCCATGGCCCTTCATGTCCAACCTCCCATGATGCCCGGGCTGTGCGGGTTGGCTGTTTTCTGTCTTCAG
AAAGACAAGAACTTTACCTTCATTGACAGCGTGAGGGAGATAGTCTTAGCCTCAAAGTCTCCGATAGGTACATGAAG
CATTCACTGTCATCGGAGCTGCAGTTCAACAGAGGGTGCCGAATCCAAGACGAGCCTGGACTGTCTTAATTCAATGCAGA
AGAAGAAGCGTAGAGATGAAGAATTACTCCAACAATAATGAATTATGATCTCCTGTGGATCCCTGGCTGTGCAATACCG
AAGCATCTCCGGCATAATTTATTTGCTCCGGGAGCAGCATTACATGCCACGACCCGACCAAGTTTTCAGTTTACCCAG
GACCAATCGTTCTGGCTCGGGAGAATCACAATTGGGGGGGTGCCTTAATGACTACCTCTGCGCGAGAAGCTGGATG
GGAAGCCAATGAGAGGCATGATGCTGTCCCAACACAGCGTGGCATGTGGTTTGCAGGGCAAACCCATTGCAACCAACCT
GTTCAAGCCTTCAGTGAACCTGGCAGAAGAGTTGTCTGTGAAATACACTGGAGCTTTCTGCGCTCAGACGCCCTGCTA
CAGCTGGCTCAGGCCGACTGTGGCCCCAGAAGCCGTACCTGATTTGGAGAATCAGGGTGGAAAAGACCCACGAATGGG
GCACGGGTGAACCTGGCGCTGAGCATGGTCTGAGCTGCTTAGACTGA

>seq64 [SEQ ID NO: 64]

ATGTGCTATCCATCGCCTGACTGGAGAATTGTGATAATAACCCAGTTACTGAATACGAGATGGATCGCAGTCAGGGCAC
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GTCAAAGGCCAGCACATTAGTAGGGTCAGTGATGGAGGGAAGCGAGGACTGCAGTTGCGAGTTTCTGATATGCCTGGT
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>seq65 [SEQ ID NO: 65]

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AACC GGCTTCTGTGGAGATCCACATGATGTGTTTCTGGAATACCATGGTGAACCTGGTCAACTTCTTCTGGCGCAGA
AGGCAGCTTCAGGACGAAGGACTTTAA

>seq66 [SEQ ID NO: 66]

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CATGAAAGCAGACGGGAGAGTAACGTGGTCCCGGGAAGCCAGCAGGCCTGACATCCAGAAGTTACTTAGAAGCGCCC
CCAGGGGAACAAACACGGGAGCGGCCCTTAGGCATTTTGGTCCCTTATATGCGAGCCCCGAAGAAATACTCTGACTACC
TGATGACATTCTGCACGCGTAAGCCCTTCCATAAGTCCCCATGA

>seq67 [SEQ ID NO: 67]

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CTTGCAACACGTCACCAGCCACGATGGGCAGGTGCATAACCTGGGGGCCACGAGGACAACTTTTCTGCTCTTTCCGGGA
GACTGATGTGAGCCACCTGTGTTTGTATCAAACAGCTGAGCTTCTTCAGTCAGATCCTGCAGTACAAGCAGCTCATGTG
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>seq68 [SEQ ID NO: 68]

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TGGTGACCTTATCAAGAGTGCCGGCACCTCCCTGCTGGATATGCGAGATCCGATGTGTGTCAGCGGAGGAGTCACTCCC
TCGAACCTGATGATCTGCAAGACTCCACCCTCTGGTTTCTGCTGTCTCACTCGGACTGCTCTGGAGAAAAGCAGATGG
CTCTGAGAATGTGAGCCAGCAATATCTTTCAGGGTCGGAAAACCCCGCCTCTCCTTGCCAGTCGACAGCTACCTGCAT
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CGCCAGAATGCATTGGCATGGGCATACTGTCAATTGTATTCTCCGTCAGATCGACTCCCCCTCCGCCCCAGTGCCCAA
CACCCCTGTTGAGCTGGTCCGCCGGGTGACGAGGGAGTCACAGCAGGTTGGGGTGCAACGAGCCCTAATGCTGGGTAC
GAGACCCCTCTGCTCAACCGCCGCAAGTAA

>seq69 [SEQ ID NO: 69]

ATGCGGATTGATGAAGGGACCCAGGAGGAGTGTGAGCTCTGCGCTCTGGGCACGAAGAGCCAGCCATCATTTGCGCTC
GACAGTACAGAATTGAACTGTGGGTTTCATGCTCAGCTGA

>seq70 [SEQ ID NO: 70]

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CCAGGTGTGTGAGCAGCATGATAACCGCTTGAACAGGGAGTCAATCGCTCAGGTCGCTTATCAGAGAGGGATCTGGATG
AGCAAGAACTGA

>seq71 [SEQ ID NO: 71]

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AGTGGGAGATTTTGGGGGCACGCCCAAGAATTCAATACAGACCCAGGCGGATCGATCTACGGCTGGCTCAGAGG

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GACATCAGCTTTAAATTAATGTCCATGTCCAGCAGTTGGAAGAATGTGGGAAGGTATGCAGCCCCCTTTTGCTTAGGTC
TCTTTCCGCACTACGGGAACATGGAACCTACGGGAACCTTCTGTTTTCCACATGAAAGCGCGCGAAACCAGAACACGTC
AACCAGTCTCTGACATCCATCAGACTCAGGTCAGGCTGGTGA

>seq72 [SEQ ID NO: 72]

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GCGGTGTATCCTGAAGTTCAGCTGGGAGGAGAGGTTTTTGTCTTCAATCAAGTTGTTCTCTGACTCTTTCTCAGTT
GAGATTGAGTTGGCAGAGGTGAGATTCTATCCTACCAGAACTCACGGTTGCCAGCGCCACGCACCGACTATCTGAGTG
CGAGCCGCACTTCTAAAAACAAGCTGTCTCTGCGCGTGTTCATATTGGGACACCAGCTAAACTGCCCTCTGTGCACTGC
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TCCGCTTATCTGTAA

>seq73 [SEQ ID NO: 73]

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GATAGCTAAGATGCAGTTGACCCTGGAGACCTGGTCTCCCTGGATTATCTGGCTCAATCTTAAGGGATGGCCCTGCCCG
ATCCTGCGCTTATGTACCCATCAAGAAAGTCTGCAGCTGACTACACTGACTCTGTGAAAACCTGA

>seq74 [SEQ ID NO: 74]

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>seq75 [SEQ ID NO: 75]

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GTGTGACTGCCTGACGCTGTAG

>seq76 [SEQ ID NO: 76]

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>seq77 [SEQ ID NO: 77]

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>seq78 [SEQ ID NO: 78]

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GAGTTCCATGAACGGCTGA

>seq79 [SEQ ID NO: 79]

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AAAGCTCGGATCATAG

>seq80 [SEQ ID NO: 80]

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CCCCATGTTTAAATTCGAGTTTTTTCATGGGCTCAACGTGGCCGAGAACCTGGTGTCTGGAACCTGCTTCGAGGAGAAG
GGACAAATGCTGCTATGGTTTCAACAGCAAAGGCCGCTCTGTCCGGGCACTGGAATTCGTGTGTATCAGGGCCTTCAGCA
ACATCCAATCGGATGACTCCAGTGACGCCCCCTTTTGGCCTGGTTTGA

>seq81 [SEQ ID NO: 81]

ATGAGCGGGAACCTCCGTATCAACCATGGCTGACTGCCTGCATCTGTGGGAAAAGTCGACTCAGTGTGGGCCTGCTA
AGGCCGCCAACAAACAGCTTTCCAGGGATCAGGCCAGAAAGCGGCTGTATTCGCCATCCCCACCCATCCTGAACAC
AATGATCCTCTCCCTAAAAGTTGGGTACGCTGCATGTTGCGAAGAAGCAGGCCCCACGTGTTGGCTGCTCTCCACC
GCCAACTTAAATTCCTTCCATCCCAGTTGCAACCGAGGCAGATCGAACTTTTGTAGCTCTGATTACCACCGCACTC
TCCCTTGTGCGCAGGCTATCATCAGAAATTTGGAGCTGAAAATCTGGACCTCCACCAAAGCGAACAGTCCCGAACCTGT
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>seq82 [SEQ ID NO: 82]

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TCAGAAATAG

>seq83 [SEQ ID NO: 83]

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GACCGCTCTCCAGTCTACTACCGAGACTCACTCCTACGAGTAA

>seq84 [SEQ ID NO: 84]

ATGGACCGCCACACATCGTGTCCATGGCCTTTTTGAACTGCGCTTCTCAGCGCCATCTTGAAGGGCCATAAAATCC

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CCCTGCCCATAAAGATCCTGCGCTTCGATCCACTCTCTCAAAGTACTGAATTTCTCGGGGGTAG
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CCCGCAGTCAGAAGGCCAGCGTCTGAAGTTATGA
>seq87 [SEQ ID NO: 87]
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>seq89 [SEQ ID NO: 89]
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>seq90 [SEQ ID NO: 90]
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CCAGAAGTATCGAACACAGCGATGTGCCTGCCTGTGTCCATGTCTAGTAATCTGGTCTCCATGGAGCAGCGGTTCCGG
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>seq92 [SEQ ID NO: 92]
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TCCCGGGAGGAAAAGACCAAGAACCTGATGACATTCTGTTACAAGATGCATCTGCAGATGGTGGCTATCCGGTCAAAG
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GCTAACCTTGAGCCCTCGGCCAAAGGACCGGGGTATTGA
>seq95 [SEQ ID NO: 95]
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CATGGATGCTCGCGACCTTTTGGACACATTCCGAGCCCCGAATGGGAACCTACTGCTACTGTCTGACAGCTATCTCA
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TTCAGTGTACCCCCATCTGCAAGGCCTTTCAAGGGTCAACTTCATACAAGCTGAACATGTTCTCTCTTGCAGCGCACAC
TAGCGCTTTGACTTCAAGGGATTGCAAAAAGTCAATCATGAGGCGCAACCATGCTACTTTTATCCTTTCCTGGATGGA
GCAGGATTCCCGGGGGCCATTACATGCAAAATCAGAGGATGCATTCTGGGCATGCAGAACTCTCCGGTGGGCGCGCTTA
ATGGGTGCTGCAAGCAGTCTGTGAGGATGATGAGACAAAGGCATTCTGCGAGCCCCGTTTGGTGGGACGTCATGGT
GGATTATGTGCCGTGCAACTATTCTGGGAGCAAGTTCGCTCCTCAAGTGTCTCTTAACCCAATAAGCTTGAAAGCC
GCAGGACGCAAGTGA
>seq96 [SEQ ID NO: 96]
ATGTCTTATGACTTACGGTGGCTTACCGTGGGGCCACAATCACAGCCGAAATCATCTTATCTTGTAAAGCTCCCAAAG
TGAGAAATGGATTTCTGCTGGGTGAAGCAGTCCATGGAGGCCATGGTGGCCATGAAGGACCAGAAAGACGCCTTTTGTCTG
A
>seq97 [SEQ ID NO: 97]

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ATGACCAGAAGCTGGGCCCTGGTGCCACCCACCTGTTGGTTGGAGCCGAAACAACCCCTGTGACTTCATATGGGTACA
AAGCGAAGAGCAACATACGCTTTGTGTTCTCTGAGGCTTTTGAGGCTCAACAGAGGCACGAAAGCCGTTCAACCAACCA
TGCCTGGGCCCAGCCAGCAGGTGACCGGTCCATCTCATTAAAGGGGCAGGAGAAATCTAGGGAAATTTAGATCCGAGC
TGTCCTCAAACCAAGGGAGCGGACCGGAGTCTCACAAGGATGGAACAATGAAGCAACGATACGACTTCTACCTGCCGT
AA

>seq98 [SEQ ID NO: 98]

ATGAAGTATGTTTCCCAGGAAGCCCACCTGGTCTATGTTTATATGTATGCGGATCACTACCTCAGCAGTGTGCTGTCTT
CCCAAGATGGGCGCCCTCAAACCTTCATCACGCGCTGACAAATGCGAGTGACAAGTGGACTAACAAGACGAAGTCCAT
GAAGGACAGCTATCAGGGTTTGTGGGAGTTGCCTGGGATCCTGGAGCTGAGAGCAGCTGACATGGAGCTGGAACCTCTG
ACGAATGGGAAAGCCCTGATGGCGATCCGCATGATCAACATGAAGAATTCCCCGCAGGATGCCAAAGAGGCCCTCGTCTG
CGATCATGGCCAAAGTTCCAGTTTAGTTGTGCCATGCTCCGGCTACTTTGCCTGGCGGCAGAAAGGGCTTGGAGCGCAA
CTTTGATCTGAAAGGCCAAAGTGTCAAATACAGAAAAAATACAGGTCCTGGCCTGTCTCCACCTCAGGTGAGGACCTCC
TATCAGGAAAACCTGGGGACACCCCTTCTGCCACCAATTGAGATGATGAGCTACCTAGTGATTTTCGACCTCCCCCGGA
GGTCTAAACGTGATTGCAGGCGGGCCCGTGAGTCTTTGCCCCACGCGAGGGACTAGCCAAAGAACAGGGCAAAGCAA
GCTCCGCGCAGCTTACATTCAACAAGGGTTTCGAGGGCCTGACTCGTGAACAAGTCCAGGGGTATGCTGAGAGCTGT
GACGTTCTGCCACAGCAGTAG

>seq99 [SEQ ID NO: 99]

ATGGGCACAAAGCCCTTCTCACTCAAGGGAAAGAGCTACAAGCAGCCTAACCTGAAAATGCACCCCTCGTGCTCCCT
TAAACAGATTCTTGTGTCAGGGTGCTGCAGTTGCAGAGCGGAAAAATGCGGTAA

>seq100 [SEQ ID NO: 100]

ATGAATGGGCTCCTGCACACGACATATAAGGAGAAGACGTGATCCGCGTGAGGTGTTTGGGCATAGTGCAGAAATTT
CCCGCTGTGTCCTCTGCCTTCCAGTTCCATGGCAACCCCGCCAAATGACGTGAATATGGTGATCCCCCTCAAAGACG
TGCGCTGACGAACACCTATGGGTCTGCTTCGATTGTCAGATGACGCCGATTTACAACCCTACCGTCTCTGCCTGGGTT
TACTCGAGCCAAGAGGCACTCAAGTGTGTTACCTGGGCTTCCGGCGGAGAATTGAAATGCCCTTTTGTGTTTAGTGGTG
CGGCCAACAGATCCTACAACTTTTCTGCTAAGGAACGCTTGGGTACGCACCTGCCTGTATCCGATGGCACAGATATTT
ATGGATGAACCTTGACATGAAAATGTTGACTGCCCTTCGCATCTGA

Figure 2

>seq960 [SEQ ID NO: 101] | seq posit = 113 | Tm = [67.1886] | GC% = 51
aaccaatcccacccaggtgtgcggcgaatcggtcgatctagtcctaattagccggataggaaaacctca
>seq393 [SEQ ID NO: 102] | seq posit = 59 | Tm = [67.4662] | GC% = 51
aagaacccacgcccgtctacatatcgggcacgtgctataacgactcaggagtatttaacgaccgcacggaa
>seq986 [SEQ ID NO: 103] | seq posit = 36 | Tm = [66.6729] | GC% = 50
acaggtgtcctcaaaccagcctgaaacgttactaggtgaagaatcaccgcggttgctcggtagttaagcga
>seq535 [SEQ ID NO: 104] | seq posit = 133 | Tm = [67.0512] | GC% = 50
acccgcgtacacagtaggcactctacggcgcgttttagcggttaatcaccaattttgcaatagtcaccagag
>seq581 [SEQ ID NO: 105] | seq posit = 103 | Tm = [66.5507] | GC% = 50
acggactacctcggccacttcatttggcgacctgcggatattgcttacgaatctcgatcttccggattat
>seq866 [SEQ ID NO: 106] | seq posit = 91 | Tm = [66.5878] | GC% = 50
agaagtcgtgtgatcgaggtagcactgggatttacgaaaattgccctaccgggtatacgctaggccatacc
>seq71 [SEQ ID NO: 107] | seq posit = 58 | Tm = [66.7385] | GC% = 50
agcccatatatagcccacgcgggtgtcgacaacatatgtcgtatgcgagtaacgttttcgtttgagatgg
>seq595 [SEQ ID NO: 108] | seq posit = 59 | Tm = [66.7497] | GC% = 50
atactacttttgggtatgctagctacgtagtacccttcaatagccgtcgttgggtctcttgcgcgtcacg
>seq35 [SEQ ID NO: 109] | seq posit = 59 | Tm = [66.157] | GC% = 66.157
catctatctatgtaagttaccggcatgggttatggattcgtggaccgcgatgtgacgtaggggtttccac
>seq599 [SEQ ID NO: 110] | seq posit = 37 | Tm = [66.4969] | GC% = 50
cattttaccggttaccgggaagcgtgtgtgtctttatttgcgcgtaccagtggtgagaacgacggaacag
>seq429 [SEQ ID NO: 111] | seq posit = 99 | Tm = [66.8714] | GC% = 50
ccatccggggccataagtttatagtagcgattgttttggccctaccagcgaatcgcgccagtttagtaatc
>seq470 [SEQ ID NO: 112] | seq posit = 98 | Tm = [67.7815] | GC% = 51
cccgagcttgcgctagtagcattatgtaccgctatgtcaatttgacgcctcgcactgcggcactttatt
>seq826 [SEQ ID NO: 113] | seq posit = 27 | Tm = [67.2547] | GC% = 51
ccggctcgggtgtcaccgcggaagtacctttgagtatcgcaattatcggtcttaacctggacgtaactaaa
>seq121 [SEQ ID NO: 114] | seq posit = 91 | Tm = [67.1271] | GC% = 51
ccttggatgggttaaattccctcgtctacgcgtaacaactgaacgcgtagcgcgacggtctcaggaaatta
>seq118 [SEQ ID NO: 115] | seq posit = 94 | Tm = [66.4195] | GC% = 50
cctttccgtgttactcggccggcaaggacgcctcgtaccatctttgatagatgtatttgcgtaaatccgg
>seq622 [SEQ ID NO: 116] | seq posit = 131 | Tm = [67.2651] | GC% = 51
cgcgaccccgactggtagttgcgcgctcgcattaccgagttcacatcgcatgtactacattagagaaata
>seq33 [SEQ ID NO: 117] | seq posit = 51 | Tm = [66.6602] | GC% = 51
cggccacaactctcaggacgcatataagacgcggaaaggcatacacgtctacttagagacaccgagactt
>seq568 [SEQ ID NO: 118] | seq posit = 31 | Tm = [66.9422] | GC% = 51
ctgcttaaccggttccagagggcggttcgtatcaaaaagggtgcgatttcgatcacgtcgcagtgactcat
>seq645 [SEQ ID NO: 119] | seq posit = 63 | Tm = [66.3513] | GC% = 50
gaatggcatcaacggcgtgtacatagtccttctcgcctacataatagcgctagttgataggaaccagggg
>seq675 [SEQ ID NO: 120] | seq posit = 145 | Tm = [66.9231] | GC% = 51
gagctgcacacccgcagacatcatagtgagtgtaatcacgcacgtgaccagttaaccatttcgtggaga
>seq799 [SEQ ID NO: 121] | seq posit = 55 | Tm = [65.8952] | GC% = 50
gatggattcacgaacgagcacttagtaacgcctggtactgacatcttattgcacgtagtggagagcctgg
>seq1 [SEQ ID NO: 122] | seq posit = 70 | Tm = [65.843] | GC% = 65.843
gcaacgaccagctacctgttaaccgtatatcagagtcgaatgctcgcggtactgttcgaagtactcatcg
>seq683 [SEQ ID NO: 123] | seq posit = 85 | Tm = [66.3914] | GC% = 50
gcagaattcctaaccatgcaagcgtggcgactcgtctctcgcgaagtctatacgaatcagcgatgggta
>seq781 [SEQ ID NO: 124] | seq posit = 126 | Tm = [65.787] | GC% = 65.787
gccctctcgtcccacgttcgctcgtcttggtagactactgacgggtatccctctaaatacttctctttt
>seq799 [SEQ ID NO: 125] | seq posit = 236 | Tm = [66.3829] | GC% = 51
gcctcttcgatgggggtccgtcgtggtcagtagcagcgaatgcgacggtagatgtcagaattgattctgt
>seq567 [SEQ ID NO: 126] | seq posit = 117 | Tm = [67.3478] | GC% = 51
gcgggctcttgcgaaacttatgggctagtgactcgggtgtagcacgttttgcgaagactaagacagta
>seq610 [SEQ ID NO: 127] | seq posit = 106 | Tm = [66.353] | GC% = 66.353

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gcgtctatgacaggtcgggcacttaggcggcgacgcttgatgtttgagtcgcagatattagttttataagg
>seq480 [SEQ ID NO: 128] | seq posit = 71 | Tm = [66.6889] | GC% = 50
gctatctaacgcggtcttgccaatactacgaatggttgctacaggatatcgagtaccgcaaatgggggc
>seq855 [SEQ ID NO: 129] | seq posit = 33 | Tm = [66.1915] | GC% = 50
gggggcaactctccaaccgagcgtgaatccagcgattattatcctactccatactattagcgggtatacg
>seq892 [SEQ ID NO: 130] | seq posit = 56 | Tm = [|GC% = 67.231]
ggtacgaatctcccattgcatggacaaatatagtcacgcattggacgcacccaccgatggctctccaat
>seq65 [SEQ ID NO: 131] | seq posit = 31 | Tm = [66.6237] | GC% = 51
ggtcgtacccaacctgacacgagatgtcggcgctcgtttcgattggacgatcggatatatgatcaagcaa
>seq435 [SEQ ID NO: 132] | seq posit = 133 | Tm = [|GC% = 67.453]
ggttggttccatgtactcgatactacctaggcatcaggtgtatacgccggtttggatgggcgttcggcaaa
>seq552 [SEQ ID NO: 133] | seq posit = 80 | Tm = [66.5367] | GC% = 50
gtgccaccccaattagtcctttgtccgggccaagagtacgacaacggggtattttggtactatatccac
>seq391 [SEQ ID NO: 134] | seq posit = 24 | Tm = [66.0311] | GC% = 50
gttaagggtctcgaaagatttctactctcgacgtaccgttggcagcgactaagaacgggtaatgtgctg
>seq886 [SEQ ID NO: 135] | seq posit = 144 | Tm = [67.8701] | GC% = 51
gttaggcacttgccgctcaagcgcgcaaacccctaattacgttctgtccacgcgctagggatattcgtata
>seq80 [SEQ ID NO: 136] | seq posit = 117 | Tm = [66.4445] | GC% = 50
taagatgcctgacgaaaaagtcccgtgtacccacaacggaaagcgtgatctagatagttcccttagcgcc
>seq732 [SEQ ID NO: 137] | seq posit = 53 | Tm = [67.4631] | GC% = 51
taattttgggttgctcgaggcataaactgggtatgctcgtctcgctcgacgagcgggtgaacgcctatcgct
>seq597 [SEQ ID NO: 138] | seq posit = 84 | Tm = [|GC% = 66.526]
tattggcgcggcgctaacttatatcgagagatgtctagtttccccaccggtacatattctacggggag
>seq534 [SEQ ID NO: 139] | seq posit = 134 | Tm = [67.5222] | GC% = 51
tattttccggtactgagtgaacgacatgaagttggcggtcaggtcgttatttcgcagccacgcaccact
>seq860 [SEQ ID NO: 140] | seq posit = 43 | Tm = [66.5685] | GC% = 50
tcagatgtcgttattaacgggaaggtatccggttcactatcacggcgattacttcgcgttgcgaaagggc
>seq501 [SEQ ID NO: 141] | seq posit = 65 | Tm = [67.1596] | GC% = 51
tccggctccgcagacggtttaactcgaaccttaaaagtcgtgtgaagctacttcgagaccatgcgctctt
>seq775 [SEQ ID NO: 142] | seq posit = 54 | Tm = [67.0808] | GC% = 50
tctgttaccacattgtcaccacttgacaggcgacgggtcgtttgtaaagcgactagctacgcaggtata
>seq49 [SEQ ID NO: 143] | seq posit = 30 | Tm = [67.6598] | GC% = 51
tggagatgcgaacggttgggagtatcaatccccgggtgcaacccccctaattccgacatgccgcaagtatatat
>seq554 [SEQ ID NO: 144] | seq posit = 103 | Tm = [67.6507] | GC% = 51
tgggcgcctagagccagcatattacaggcgagctgttttcgcgtctctaatgacgtgtacgcgattctat
>seq983 [SEQ ID NO: 145] | seq posit = 52 | Tm = [66.6572] | GC% = 50
tgtagacagggcgcgattgtatgggacagtttacgcactaaccgactctacaatgtagtgtttgtcgggc
>seq631 [SEQ ID NO: 146] | seq posit = 32 | Tm = [|GC% = 67.493]
ttccgcatgagatcaacgcgtggtcaatacgtgttaagaaccggtcgacgccagctagacctaatgcggt
>seq397 [SEQ ID NO: 147] | seq posit = 120 | Tm = [67.7733] | GC% = 51
tttcgactgggggtacaaagctccctatttgccggttcacgaagctacatactggtctagcgcgtgcacaa



Figure 3

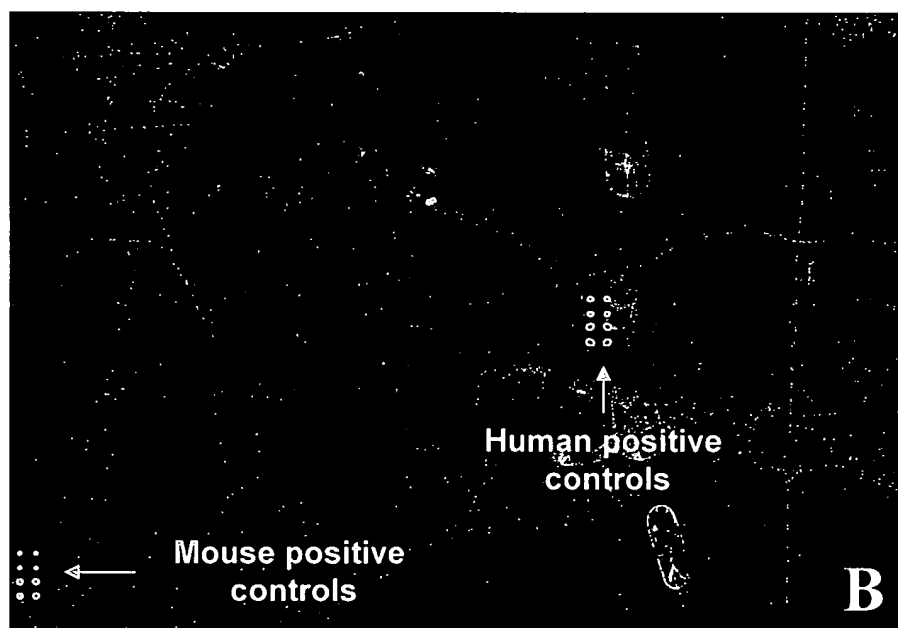
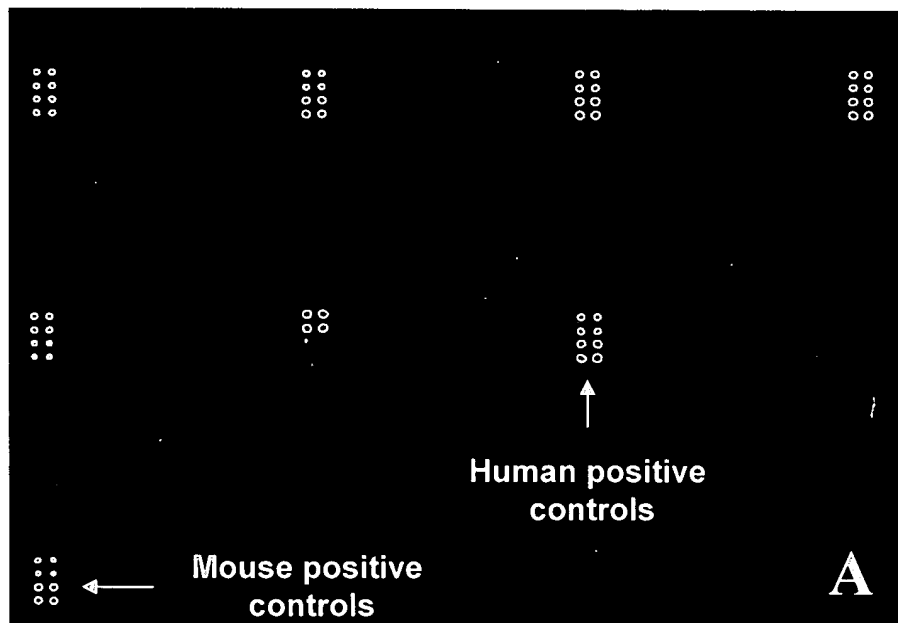


Figure 5

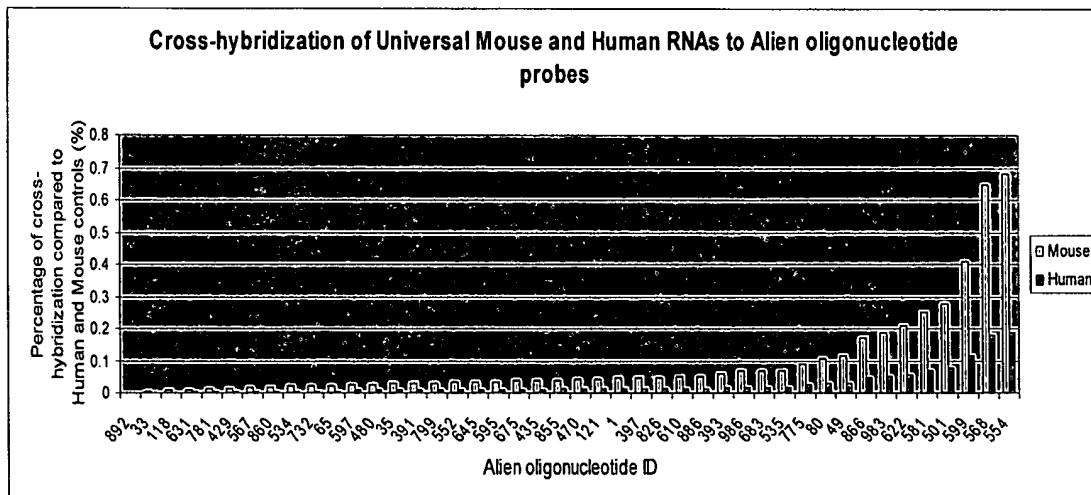


Figure 6

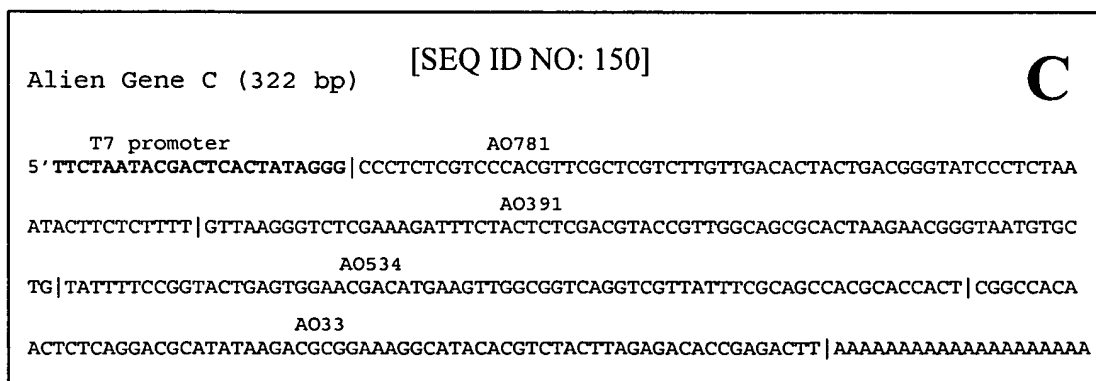
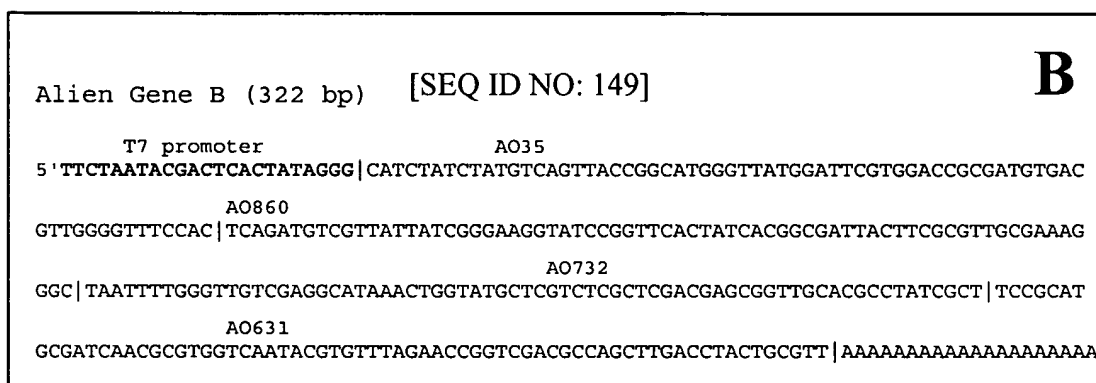
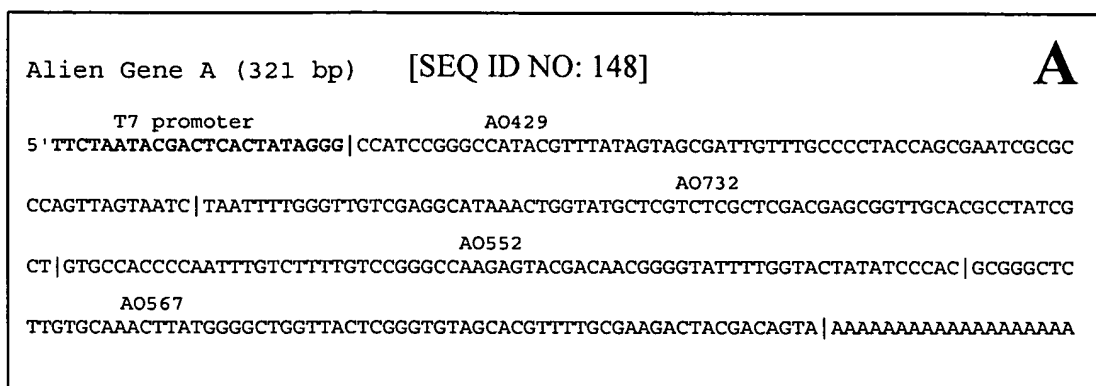


Figure 6

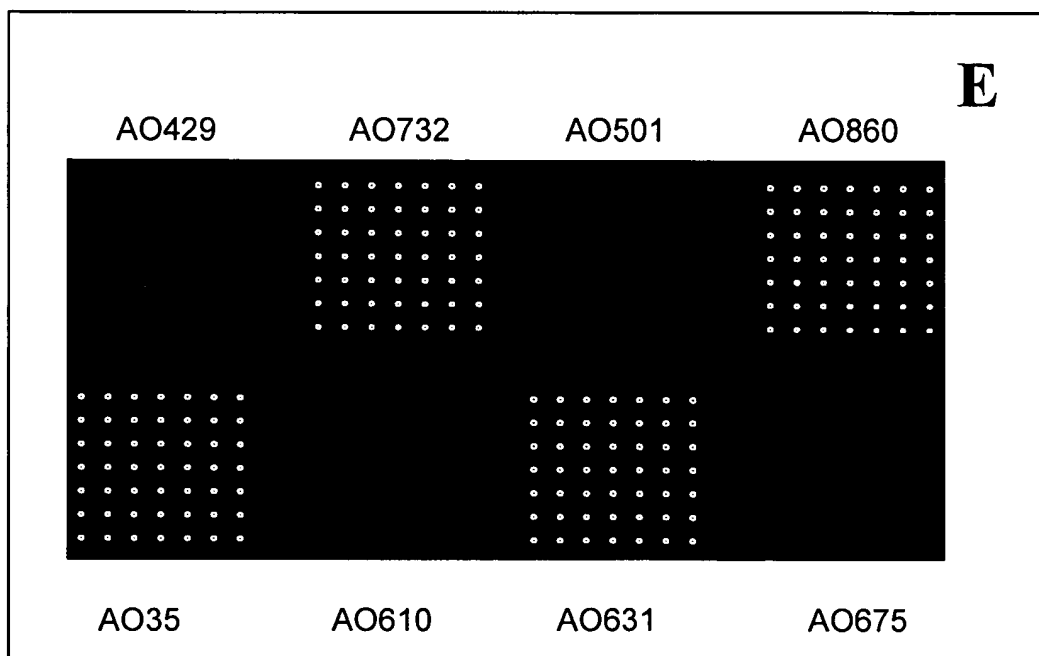
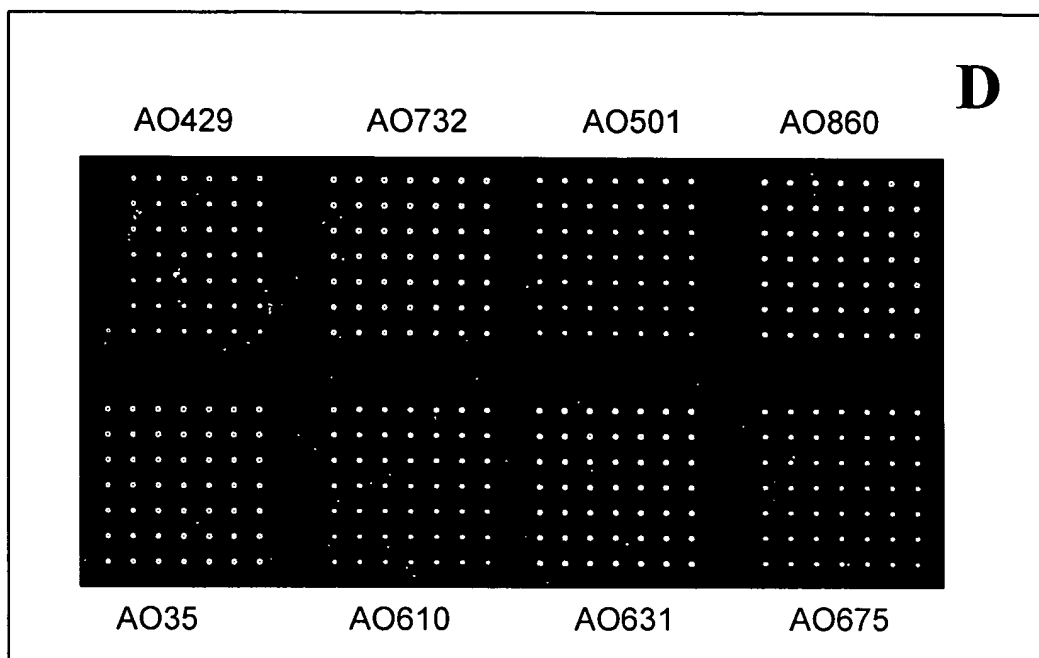
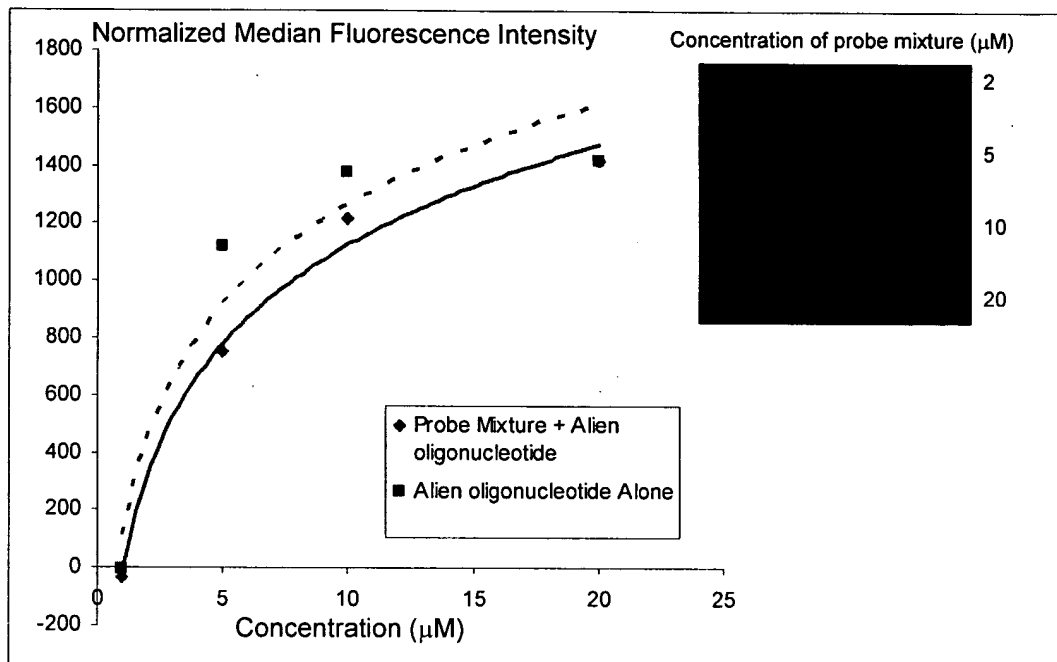
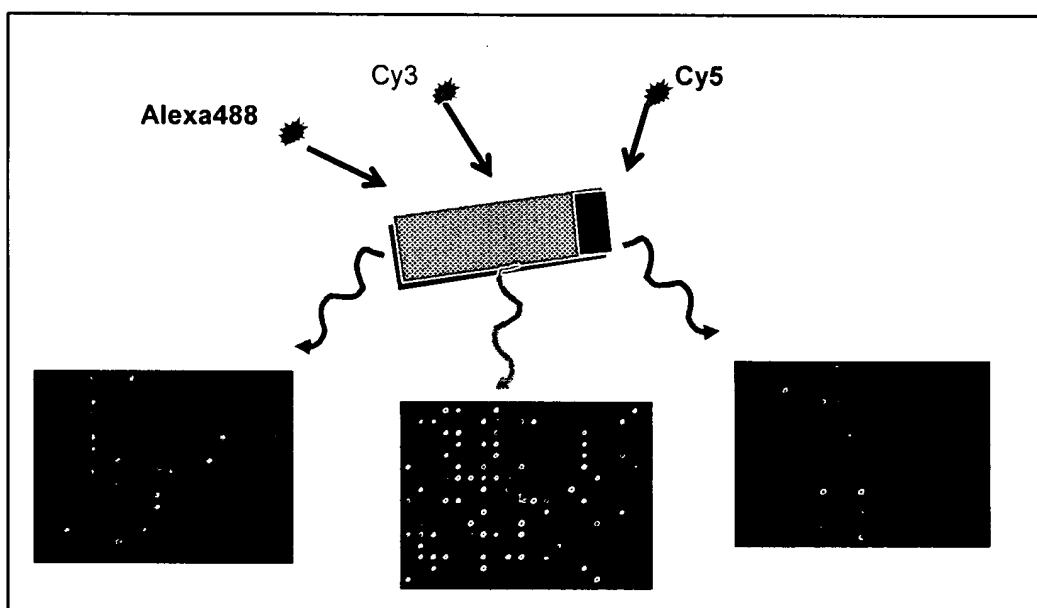


Figure 7



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Figure 8



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